CALIFORNIA HORSE RACING BOARD
1010 Hurley Way, Suite 300
Sacramento, CA 95825
www.chrb.ca.gov
(916) 263-6000 Fax (916) 263-6042

Postmortem Examination Review Summary #005

Horse Information: 6-year-old Thoroughbred.

Incident Summary: This horse was performing a 5/8ths mile breeze (high-speed workout) on the dirt track during morning training. When the horse was at the middle of the turn, it jumped and collapsed, then died.

Necropsy Summary: A necropsy examination revealed the cause of death was idiopathic internal hemorrhage and several liters of blood was present within the abdomen (hemoabdomen). Traces of brodifacoum (<50ppb) were detected on anticoagulant screen. Even though the levels are considered below those typically seen in anticoagulant rodenticide toxicity, their presence in the face of idiopathic hemorrhage is concerning.[1] Endocrinology testing was performed to measure T3 and T4 (Thyroxine) levels. A fecal flotation exam detected ascarid eggs.

Racing/Training History: The horse had raced for several years. The horse finished poorly in the final race. The trainer reported having an endoscope and had scoped the horse himself numerous times. No bleeding (exercise induced pulmonary hemorrhage) was detected. That the trainer has his own endoscope and is examining horses is unusual and concerning, especially if he is diagnosing any condition, including exercise induced pulmonary hemorrhage. Additionally, the trainer reported that all horses had a blood test for thyroid hormones when entering the barn, and if low, the horse would receive thyroid hormone medication. The trainer did not recall if this horse received thyroid hormone medication but offered to check the barn list. Two days after the trainer interview the Safety Steward visited the barn and obtained the barn list and the horse's blood test results. The T4 (thyroxine) level was within normal limits at the beginning of December, however, the assistant reported the horse received 2 scoops of Thyro L powder in the feed once daily.

Veterinary History Summary: This horse received furosemide before timed workout and 4 hours prior to racing. The horse had received injections of dexamethasone SP a few weeks prior to collapse. Dispensed Prednisolone tabs at that time were reported by the attending veterinarian to be for intra-tracheal mucus according to the trainer because he scopes his own horses. Approximately two months prior to collapse, the billing record showed 'miscellaneous barn meds.' The attending veterinarian reported this was for oral phenylbutazone and sucralfate. The veterinarian reported thyroxine was not dispensed to the horse.

Rodenticide Use: Inspection of the trainer's barn revealed the barn staff had been using anticoagulant rodenticides around the barn, although brodifacoum was not noted in the ingredients of the current products. The assistant reported placing the rodenticide Rodentex under pallets and in holes around the barn area twice a month. The facility management utilizes a pest control company weekly. The rodenticide Nectus Soft Bait (brodifacoum is not listed as an ingredient) is placed in stations located outside of the stable office, maintenance yard, and feed storage area. The pest control technician reported not using the product inside the

feed storage areas. Upon inspection, no bait stations were inside the feed storage areas, only on the outside of the buildings. Anticoagulant rodenticide products are a concern because they have a very long environmental and pharmacokinetic half-life. Thus, they can remain for months in both the environment and an animal.

Pre-race Examinations: N/A

Conclusion: This horse collapsed while performing a high-speed workout due to blood loss into the abdomen (hemoabdomen). A low level of the anticoagulant brodifacoum was detected. Careful management of rodent control programs is essential to prevent environmental contamination and exposure to horses.

[1] Arthur, R. M., et al. "Idiopathic hemorrhage associated with anticoagulant rodenticide exposure in exercising horses." *Proceedings of the 61st Annual Convention of the American Association of Equine Practitioners, Las Vegas, Nevada, USA, December 5-9, 2015*. American Association of Equine Practitioners (AAEP), 2015.